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UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Hiroshi Ohta

Serial No.: 09/781,280

Group Art Unit: 2623

Filed: February 13, 2001

Examiner: Le, Brian Q.

For: OBJECT EXTRACTION DEVICE, OBJECT EXTRACTION METHOD, AND
RECORDING MEDIA FOR STORING AN OBJECT EXTRACTION PROGRAM

Honorable Commissioner of Patents
Alexandria, VA 22313-1450

REQUEST FOR WITHDRAWAL OF ERRONEOUS HOLDING OF ABANDONMENT

Sir:

It is respectfully requested that the holding of abandonment, documented in the Notice of Abandonment mailed July 18, 2005, be withdrawn as erroneous.

The Notice of Abandonment states that this application is abandoned in view of Applicant's failure to timely file a proper reply to the Office letter mailed March 22, 2005. The holding of abandonment is erroneous for at least two reason, as follows:

1) The Office Action mailed March 22, 2005 sets a three month period for response, and so that period ended June 22, 2005. However, under 37 C.F.R. §1.136(a) an extension of the period for response of up to an additional three months may be obtained. Thus, the application can not be deemed to be abandoned until after September 22, 2005, and then only if no response has been filed to the March 22, 2005 Office Action.

2) A response to the March 22, 2005 Office Action was filed June 22, 2005. Attached are a copy of the response and a copy of the receipt postcard showing receipt of the response by the Patent and Trademark Office on June 22, 2005.


Serial No.: 09/781,280
Docket No. OSP-10401
SHI.031

In view of the above, it is clear that the application has not been abandoned, and so it is respectfully requested that the holding of abandonment be withdrawn and the Amendment of June 22, 2005 be considered.

Respectfully Submitted,

Date:

July 21, 2002


James N. Dresser, Esq.
Registration No. 22,973

McGinn & Gibb, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254



SH1.031
JND:KKS

Attorney's Post Card Filing Receipt

Serial Number 291,781,280

Papers Filed On: 06/22/04

Attorney's Docket Number: CSP-10401

☒ Patent

☐ Trademark

Applicant's Name: Hiroshi Ohta

Application Filing Date: 2/13/01

Papers Filed Herewith:

☒ Amendment ☐ Request for Extension of Time ☐ CPA Request

☐ Notice of Appeal ☐ Appeal Brief (in triplicate) ☐ Reply Brief

☐ IDS JUN 22 2004 ☐ 1449 Form w/ ___ Documents ☐ Priority Document(s)

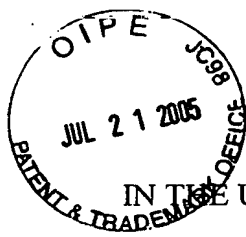
☐ Assignment ☐ Recordation Cover Sheet ☐ Formal Drawings

☐ Drawing Corrections ☐ Issue Fee Transmittal ☐ Missing Parts

☒ Other Submission of replacement drawing sheet including drawing correction

Fees Filed Herewith: \$ ☐ Check ☐ Charge Deposit Account: _____

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In re Application of: Hiroshi Ohta

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AMENDMENT UNDER 37 C.F.R. §1.111

Sir:

In response to the Office Action dated March 22, 2004, please amend the above-identified application as follows:

AMENDMENTS TO THE SPECIFICATION

The paragraph commencing at page 10, line 9 is amended as follows:

Fig. 2 is a block drawing showing the structure of the object extraction device 102 according to the ~~first~~second embodiment of the present invention.

The paragraph commencing at page 10, line 11 is amended as follows:

Fig. 3 is a block drawing showing the structure of the object extraction device 103 according to the ~~first~~third embodiment of the present invention.

AMENDMENTS TO THE CLAIMS

1. (Currently amended) An object extraction device, comprising:

a first object extraction calculating device that finds ~~the~~ an object extraction image by carrying out object extraction calculations for extraction of an object by using a predetermined first calculation parameter on a plurality of photographed images having a parallax with respect to the ~~same object;~~ and

an incorrect outline extraction processing device that extracts an outline from ~~an~~ the object extraction image found by said first object extraction calculating device and extracts ~~as an incorrect outline segment~~ a straight line segment having a length exceeding a predetermined threshold value within from the extracted outline;

a recalculated region determining device that determines as a recalculated region a partial region that includes the incorrect outline segment extracted by said incorrect outline extraction processing device within an image region of one of the photographed images; and

a second object extraction calculating device that finds a re-extracted image that comprises an object extraction image of the recalculated region by carrying out an object extraction calculation in order to eliminate the incorrect outline segment in the recalculated region by using a second calculation parameter that is different from the first calculation parameter on said plurality of photographed images.

2. (Currently amended) An object extraction device according to Claim 1, wherein said incorrect outline extraction processing device comprises:

an outline extraction device that extracts ~~an~~the outline from ~~an~~the object extraction image found by said first object extraction calculating device;

an edge pixel calculating device that finds ~~the~~an edge part of the object from a predetermined photographed image from among ~~said~~the plurality of photographed images; and

an incorrect outline extraction device that extracts as ~~an~~the incorrect outline ~~the segment a~~ straight line segment that is within the outline extracted by said outline extraction device, ~~that is the~~ comprises an outline part that does not include the edge part found by said edge pixel calculating device, and that has a length exceeding a predetermined threshold value.

3. (Currently amended) An outline extraction device according to Claim 1, wherein said incorrect outline processing device comprises:

an outline extraction device that extracts ~~an~~the outline from ~~an~~the object extraction image found by said first object extraction calculating device;

an edge pixel calculating device that finds ~~the~~an edge part of the object from a specified photographed image from among ~~said~~the plurality of photographed images; and

an incorrect outline extraction device that extracts as an incorrect outline ~~the segment a~~ straight line segment ~~that is the~~ comprises an outline part within the outline extracted by said outline extraction device, that does not include the edge part found by said edge pixel calculating device, and that has a length exceeding a predetermined threshold value.

4. (Currently amended) An object extraction device according to Claim 1, wherein said incorrect outline processing device comprises:

an outline extraction device that extracts ~~an~~the outline from ~~an~~the object extraction image found by said first object extraction calculating device;

an edge pixel calculating device that finds ~~the~~an edge part of the object from a specified photographed image from among ~~said~~the plurality of photographed images; and

an incorrect outline extraction device that extracts as ~~an~~the incorrect outline ~~the segment~~ (a) a straight line segment that is~~the~~comprises an outline part within the outline extracted by said outline extraction device, that does not include the edge part found by said edge pixel calculating device, and that has a length exceeding a predetermined first threshold value, and ~~the~~ (b) a straight line segment that is~~the~~comprises an outline part that intersects ~~said~~the edge part found by ~~the~~said edge pixel calculating device and that has a length exceeding a predetermined second threshold value.

5. (Currently amended) An object extraction device according to Claim ~~4~~2, wherein ~~said~~the straight line segment ~~is a straight line segment~~ extends along the scanning direction of ~~said~~ predetermined a photographed image.

6. (Canceled)

7. (Currently amended) An object extraction device according to Claim ~~6~~1, wherein ~~said~~the recalculated region ~~is determined as the~~ comprises a rectangular region having a predetermined range that includes ~~said~~the incorrect outline segment.

8. (Currently amended) An object extraction device according to Claim-~~6~~ 1, wherein said recalculated region determining device re-determines as ~~said-the~~ recalculated region ~~the-a~~ region that encompasses all of the overlapping recalculated regions instead of a plurality of ~~said-the~~ overlapping recalculated regions.
9. (Currently amended) An object extraction device according to Claim 8, wherein ~~said-the~~ recalculated region that has been re-determined ~~is-determined-as~~ comprises the rectangular region having the smallest area.
10. (Currently amended) An object extraction device according to Claim-~~6~~ 1, further comprising an image reconstructing device that reconstructs an image of the object ~~extraction~~ ~~image~~-based on the object extraction image found by said first object extraction calculating device and the re-extracted image found by said second object extraction calculating device.
11. (Currently amended) An object extraction device according to Claim 10, wherein said image reconstructing device reconstructs an image of the object ~~extraction image~~-by exchanging ~~the-an~~ image in ~~the-a~~ region corresponding to ~~said-the~~ recalculated region within the image region of the object extraction image found by said first object extraction calculating device and the re-extracted image found by said second object extraction calculating device.
12. (Currently amended) An object extraction device according to Claim 11, wherein ~~said-the~~ second calculation parameter ~~is~~ comprises a calculation parameter that is used to carry out an object extraction calculation that is more sophisticated than ~~said-the~~ first calculation parameter.

13. (Currently amended) An object extraction device according to Claim 11, wherein ~~said the~~ object extraction device ~~is realized by~~ comprises a small-scale computer.

14. (Currently amended) An object extraction device according to Claim 1, wherein said plurality of photographed images are photographed by a plurality of cameras that photograph the ~~same~~ object from different directions.

15. (Currently amended) An object extraction device, comprising:
a first an object extraction calculating device that repeats the an object extraction calculation for eliminating an incorrect outline segment from a predetermined partial region on the a plurality of photographed images having parallax with respect to the same an object using a predetermined second calculation parameter that is different from the initial a first calculation parameter, and finds the a re-extracted image, image which is the comprises an object extraction image of this the partial region;
a recalculated region determining device that determines the partial region that includes the incorrect outline segment as a recalculated region; and
a second object extraction calculating device that finds a re-extracted image that comprises an object extraction image of the recalculated region by carrying out an object extraction calculation in order to eliminate the incorrect outline segment in the recalculated region by using the second calculation parameter on said plurality of photographed images.

16. (Currently amended) An object calculating device according to Claim 15, wherein ~~said the~~ partial region ~~is comprises~~ a region that includes ~~the an~~ outline part determined to be an incorrect outline segment within the image region of the object extraction image found by carrying out the object extraction calculation for extraction of the object using ~~said initial the first~~ calculation parameter.

17. (Currently amended) An object extraction device according to Claim 15, further comprising an image reconstructing device that reconstructs an image of the object ~~extraction image~~ by exchanging the image of ~~said the~~ partial region within the object extraction image found by the object extraction calculation using ~~said initial the first~~ calculation parameter and the re-extracted image.

18. (Currently amended) An object extraction method comprising:

~~a first process that finds~~ finding an object extraction image by carrying out an object extraction calculation for extraction ~~the of an~~ object, using a predetermined first calculation parameter on ~~the a~~ plurality of photographed images that have parallax with respect to the ~~same~~ object;

~~a second process that extracts the~~ extracting an outline from the object extraction image; ~~found by said first process;~~

~~a third process that extracts as~~ extracting an incorrect outline ~~the segment~~ straight line segment within from the extracted outline; ~~extracted by said second process that has a length exceeding a predetermined threshold value;~~

~~a fourth process that determines~~ determining as ~~the~~ a recalculated region ~~the~~ a partial region that includes the incorrect outline segment ~~extracted by said third process within the~~ an image region of ~~said predetermined one of the photographed image images;~~

~~a fifth process that finds the~~ finding a re-extracted image, which ~~is the~~ comprises an object extraction image ~~in of~~ the recalculated region, by carrying out an object extraction calculation for eliminating the incorrect outline segment ~~in said the~~ recalculated region using a predetermined second calculation parameter that is different from ~~said the~~ first calculation parameter on ~~said the~~ plurality of photographed images; and

~~a sixth process that reconstructs~~ reconstructing an image of the object extraction image based on the object extraction image ~~found in said first process and the re-extracted image, found in said fifth process.~~

19. (Currently amended) An object extraction method according to Claim 18, wherein ~~said third process finds the~~ the incorrect outline extracting comprises finding an edge part of the object from the ~~predetermined one of the photographed image from among said plurality of photographed images, and extracts~~ extracting as an the incorrect outline segment either or both ~~the of~~ (a) a straight line segment that is within the extracted outline, ~~extracted by said second process that is the~~ comprises an outline part not included in the found edge part, and that has a length exceeding a predetermined first threshold value, and ~~the~~ (b) a straight line segment that ~~is the~~ comprises an outline part that intersects the found edge part and that has a length exceeding a predetermined second threshold value.

20. (Currently amended) A recording medium that stores an object extraction program that executes an object extraction method on a computer, wherein said method comprises:

~~a first process that finds~~ finding an object extraction image by carrying out an object extraction calculation for extraction ~~the of an~~ object using a predetermined first calculation parameter on a plurality of photographed images having parallax with respect to the ~~same~~ object;

~~a second process that extracts~~ extracting an outline from the object extraction image; ~~found~~ by said first process; and

~~a third process that extracts as~~ extracting an incorrect outline ~~the straight line segment within from the extracted outline;~~ ~~extracted by said second process that has a length exceeding a predetermined threshold value~~

determining as a recalculated region a partial region that includes the incorrect outline segment within an image region of one of the photographed images;

finding a re-extracted image, which comprises an object extraction image of the recalculated region, by carrying out an object extraction calculation for eliminating the incorrect outline segment in the recalculated region using a predetermined second calculation parameter that is different from the first calculation parameter on the plurality of photographed images; and

reconstructing an image of the object based on the object extraction image and the re-extracted image.

21. (Canceled)

22. (Currently amended) A recording medium that stores an object extraction program according to Claim 20, wherein ~~said object extraction program further executes on a computer in said third process~~ extracting the incorrect outline segment comprises:

~~a process that finds the~~ finding an edge part of the object from a predetermined photographed image from among said the plurality of photographed images; and

~~a process that extracts~~ extracting as incorrect outlines outline segments either or both of (a) a straight line segment that ~~is the~~ comprises an outline part within the extracted outline, ~~extracted by said second process that is~~ not included in the found edge part, and that has a length exceeding a predetermined first threshold value, and (b) a straight line segment that ~~is the~~ comprises an outline part that intersects the found edge part and that has a length exceeding a predetermined second threshold value.

23. (Currently amended) A computer medium that stores an object extraction program that ~~further executes on a computer a process, that finds the~~ the process comprising:

finding a re-extracted image, which is the comprises an object ~~extracted~~ extraction image of the a predetermined partial region, by repeating the an object extraction calculation for eliminating incorrect outlines outline segments within a ~~predetermined the~~ partial region on ~~the a~~ plurality of photographed images having parallax with respect to ~~the same an~~ object, using a ~~predetermined~~ second calculation parameter that is different from ~~the initial a first~~ calculation parameter;

determining the partial region that includes the incorrect outline segments as a recalculated region; and

finding a re-extracted image that comprises an object extraction image of the recalculated region by carrying out an object extraction calculation in order to eliminate the incorrect outline

segment in the recalculated region by using the second calculation parameter on said plurality of photographed images.

24. (Currently amended) A recording medium that stores an object extraction program according to Claim 23, wherein said ~~object extraction program further executes on a computer a~~ process ~~that further~~ determines in a partial region ~~the a~~ region that includes ~~the a~~ determined outline part as an incorrect outline segment within an image region of the object extraction image found by carrying out the object extraction calculation for extraction of the object using said initial the first calculation parameter.

25. (Currently amended) A recording medium that stores an object extraction program according to Claim 23, wherein said ~~object extraction program further executes on a computer a~~ process ~~that further~~ reconstructs an image of the object extraction image by exchanging the image of ~~said the~~ partial region within the object extraction image found by the object extraction calculation using ~~said the~~ initial calculation parameter and the re-extracted image.

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AMENDMENTS TO THE ABSTRACT

The original Abstract is replaced by new Abstract attached hereto.

Serial No.: 09/781,280
Docket No. OSP-10401

AMENDMENT TO THE DRAWINGS

Figure 15 is amended to designate it as Background Art.

REMARKS

Claims 1-5, 7-20, and 22-25 are presently pending in this application and have been amended to more particularly define the invention. Claims 6 and 21 have been canceled to expedite prosecution.

It is noted that the claim amendments are made only to assure grammatical and idiomatic English and improved form under United States practice, and are not made to distinguish the invention over the prior art or narrow the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 4, 15-17, 19 and 22-24 were rejected under 35 U.S.C. §112, second paragraph, with the contention that the claims are narrative and indefinite. This rejection is traversed. All the claims, including claims 4, 15-17, 19 and 22-24, have been amended to assure grammatical and idiomatic English. It is accordingly submitted that this rejection should be reconsidered and withdrawn.

It is noted that the Office Action alleges that claim 19 recites the expression "the finding of edge part of the object" and that this limitation is not well written. The undersigned attorney was unable to locate the expression "the finding of edge part of the object" in claim 19, either as originally presented or as amended above. If the Examiner repeats this rejection, he is requested to point out the precise location within claim 19 at which the expression is found.

Applicant gratefully acknowledges that claims 6-13 and 21 are indicated to be allowable if rewritten in independent form. Claim 1 has been amended to incorporate the subject matter of claim 6, while removing features unnecessary to patentability. Likewise, claim 20 has been

amended to incorporate the subject matter of claim 21. The other amended independent claims -- 15, 18, and 23 -- contain corresponding subject matter. Consequently, all of the independent claims 1, 15, 18, 20, and 23 are allowable, as are all of their respective dependent claims 2-5, 7-14, 16-17, 19, 22, and 24-25.

The Office Action objects to Figure 15. The Submission of Replacement Drawing Sheet Including Drawing Correction amends Figure 15 to label it as Background Art.

The specification has been amended to correct clear errors, noting that the amendments cause the amended paragraphs to agree with page 15, lines 12-13 and page 17, lines 16-17.

The Abstract has been amended to better comply with United States practice.

In view of the foregoing, Applicant submits that claims 1-5, 7-20, and 22-25, all the claims presently pending in the application, are patentably distinct over the prior art of record and that the application is in condition for allowance. Such action would be appreciated.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including


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extension of time fees, to Attorney's Deposit Account No. 50-0481 and please credit any excess fees to such deposit account.

Respectfully Submitted,

Date:

June 22, 2018


James N. Dresser, Esq.
Registration No. 22,973

McGinn & Gibb, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254

ABSTRACT

An object extraction device. In an exemplary embodiment, a first object extraction calculating device finds an object extraction image by employing object extraction calculations for extraction of an object by using a predetermined first calculation parameter on photographed images having a parallax with respect to the object. An incorrect outline extraction processor extracts an outline from the object extraction image and extracts an incorrect outline segment from the extracted outline. A recalculated region determining device determines as a recalculated region a partial region that includes the incorrect outline segment. A second object extraction calculating device finds a re-extracted image that includes an object extraction image of the recalculated region, by carrying out an object extraction calculation in order to eliminate the incorrect outline segment in the recalculated region by using a second calculation parameter that is different from the first calculation parameter on the photographed images.



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Honorable Commissioner of Patents
Alexandria, VA 22313-1450

SUBMISSION OF REPLACEMENT DRAWING SHEET
INCLUDING DRAWING CORRECTION

Sir:

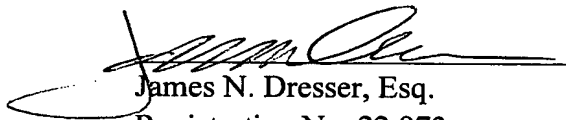
Submitted herewith is a replacement drawing sheet including a proposed drawing correction. Figure 15 is amended to designate it as Background Art.

A marked drawing having the correction in red is also attached..

Approval and acknowledgment of receipt are respectfully requested.

Respectfully Submitted,

Date: June 22, 2004


James N. Dresser, Esq.
Registration No. 22,973

McGinn & Gibb, PLLC
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254

FIG. 15
(BACKGROUND ART)

